

SPIN VALVE SENSOR HAVING ONE OF TWO AP PINNED LAYERS
MADE OF COBALT

ABSTRACT OF THE DISCLOSURE

5 In one illustrative example of the invention, a spin valve sensor includes a free layer structure; an antiparallel (AP) pinned layer structure; and a non-magnetic electrically conductive spacer layer in between the free layer structure and the AP pinned layer structure. The AP pinned layer structure includes a first AP pinned layer; a second AP pinned layer; and an antiparallel coupling (APC) layer formed between the first and
10 the second AP pinned layer. One of the first and the second AP pinned layers consists of cobalt and the other one includes cobalt-iron. The pure cobalt may be provided in the first AP pinned layer or the second AP pinned layer. Advantageously, the use of cobalt in one of the AP pinned layers increases the $\Delta r/R$ of the spin valve sensor.